

REMARKS

Claims 1-33 are pending. Claims 1, 2, 6-8, 15, 19-21, 23, 29, and 32 are rejected, and Claims 3-5, 9-14, 16-18, 22, 24-28, 30, 31 and 33 are objected to. Reconsideration is respectfully requested.

I. ALLOWABLE CLAIMS

The Applicants thank the Examiner for the indication that Claims 3-5, 9-14, 16-18, 22, 24-28, 30, 31 and 33 would be allowable if rewritten in independent form to incorporate the elements of their respective base claims and any intervening claims. However, since the Applicants believe that the remaining claims in this application are patentable, the Applicants have not rewritten Claims 3-5, 9-14, 16-18, 22, 24-28, 30, 31 and 33 in independent form.

II. CLAIM OBJECTION

The Office Action notes a minor typographical error in Claim 24. This has been corrected hereinabove.

III. REJECTIONS UNDER 35 U.S.C. § 102

Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Chen (U.S. Patent No. 6,570,616). Claims 6, 7, 15, 19, 20, 23 and 29 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Wang (U.S. Patent No. 6,781,626). These rejections are overcome for the exemplary reasons set forth below.

A cited prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. MPEP § 2131; *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). Anticipation is only shown where each and every

limitation of the claimed invention is found in a single cited prior art reference. MPEP § 2131; *In re Donohue*, 766 F.2d 531, 534, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985).

Independent Claim 1 recites “determining, for said pixel, a first edge-orientation of a first color and a second edge-orientation of a second color.” Referencing Chen Figures 7, 8 and 12-15F, and the corresponding text beginning at line 64 of column 10, all edge detection operations in Chen are performed relative to a single color only. This is demonstrated particularly clearly by the illustration of conditions A1, A2, B1, B2, C1, C2, D1 and D2 in Chen Figures 7 and 8. Accordingly, the next Office Action should either point out, with the particularity required by 37 C.F.R. § 1.104(b)(2), where the above-quoted feature of Claim 1 is found in Chen, or withdraw the rejection of Claim 1.

In view of the foregoing, Applicants submit that the Office Action has failed to demonstrate anticipation of each and every element of Claim 1 arranged as they are in Claim 1. Accordingly, Applicants respectfully request that the Examiner withdraw the § 102(e) rejection of Claim 1.

Independent Claims 6 and 19 recite “said first and second degrees of change each having a row component and a column component.” As best understood, the Office Action appears to allege that Wang’s local intensity gradient corresponds to one of the degrees of change recited in independent Claims 6 and 19, and that Wang’s continuity bias corresponds to the other degree of change recited in Claims 6 and 19. Under this interpretation, Wang fails to anticipate the invention recited in Claims 6 and 19, for at least the exemplary reasons presented below. (The following paragraph about Wang’s continuity bias is taken from a detailed explanation of Wang that was placed in the record by Applicants’ previous Amendment mailed on September 7, 2005.)

The Wang continuity bias is a weighted sum of selected continuity measures. Wang assigns a continuity measure $C(i, j)$ for each pixel of the array, where i and j represent the

row and column where the corresponding pixel is located in the array. Each continuity measure $C(i, j)$ is a signed integer value. The Office Action alleges that the above-quoted row and column components of Claims 6 and 19 are met by the row and column indices i and j of the Wang continuity measures $C(i, j)$. That is, the quoted row and column components are allegedly met by the Wang indices i and j , which indices are used in Wang only to relate pixels of an array to respectively corresponding signed integer values.

Applicants traverse the Office Action's interpretation of Wang's row and column indices i and j , for all of the reasons given in their previous Amendments mailed on March 2, 2005 and September 7, 2005. Nevertheless, even if the Office Action's interpretation of the Wang row and column indices i and j is accepted, hypothetically and for purposes of argument only, Applicants still do not find in Wang any teaching of "comparing said row component to said column component for both said first and second degrees of change to determine a selected interpolation orientation," as recited in independent Claim 6 (similar language can be found in independent Claim 19). Applicants have not found in Wang any teaching of comparing a row index i to a column index j , much less comparing a row index i to a column index j to determine an interpolation orientation. Therefore, the next Office Action should either point out, with the particularity required by 37 C.F.R. § 1.104(b)(2), where Wang teaches the above-quoted feature of Claims 6 and 19, or withdraw the rejections of Claims 6 and 19.

In view of the foregoing, Applicants submit that the Office Action has failed to demonstrate anticipation of each and every element of independent Claims 6 and 19 (and their dependent claims) arranged as they are in the claims. Accordingly, Applicants respectfully request that the Examiner withdraw the § 102(e) rejections of Claims 6, 7, 15, 19, 20, 23 and 29.

As demonstrated above, the § 102 rejections of Claims 1, 6, 7, 15, 19, 20, 23 and 29 are overcome, and withdrawal of those rejections is respectfully requested.

IV. REJECTIONS UNDER 35 U.S.C. § 103

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Shinohara et al. (article entitled “Color Image Analysis in a Vector Field”). Claims 8 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Koshiba (U.S. Patent No. 6,933,970). Claim 32 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Eiho (U.S. Patent No. 6,924,839). These rejections are overcome for the exemplary reasons set forth below.

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2142.

Claim 2 depends from independent Claim 1, and thus includes all of the limitations of Claim 1. Shinohara et al fails to remedy the above-described deficiencies of Chen with respect to Claim 1. Applicants therefore submit that the § 103 rejection of Claim 2 is overcome for at least the same exemplary reasons given above with respect to the § 102 rejection of Claim 1.

Claim 8 depends ultimately from independent Claim 6, and thus includes all of the limitations of Claim 6. Claim 21 depends ultimately from independent Claim 19, and thus

includes all of the limitations of Claim 19. Koshiha fails to remedy the above-described deficiencies of Wang with respect to Claims 6 and 19. Applicants therefore submit that the § 103 rejections of Claims 8 and 21 are overcome for at least the same exemplary reasons given above with respect to the § 102 rejections of Claims 6 and 19.

Claim 32 depends from independent Claim 19, and thus includes all of the limitations of Claim 19. Eiho fails to remedy the above-described deficiencies of Wang with respect to Claim 19. Applicants therefore submit that the § 103 rejection of Claim 32 is overcome for at least the same exemplary reasons given above with respect to the § 102 rejection of Claim 19.

As demonstrated above, the § 103 rejections of Claims 2, 8, 21 and 32 are overcome, and withdrawal of those rejections is respectfully requested.

V. CONCLUSION

As a result of the foregoing, all Claims in the Application are now believed to be in condition for allowance, and an early allowance of such Claims is respectfully requested.

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number or email address indicated below.

Respectfully submitted,

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